# Unsupervised learning

Learn something from the data when we don't have the support of a teacher/supervisor.

**Before - Supervised learning**

learn $f: X \longrightarrow Y$

with $D = \{(x_m, \boxed{y_m})\}$

the effor to provide this
information could be very high

**Now - Unsupervised learning**

learn $f: X \longrightarrow Y$

with $D = \{(x_m)\}$

We can't learn $f$ for sure since we know nothing about it, but we can analyze the dataset to provide some information about it. (e.g. distribution of the classes if we are in a classification problem)